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No. 22.

A SHORT ACCOUNT OF THE HOSPITAL SHIP KAROOLA.

By Gordon Craig, M.B., Ch.M., Sydney,
Honorary Surgeon, Royal Prince Alfred Hospital, Sydney.

My first military duty was to go up to the military camp at Liverpool and choose from some two to three hundred men sufficient recruits to complete the "establishment" of our unit. At once I found myself a foreigner and hopelessly ignorant of the rudiments of the language. Establishment had, up to that time, always been associated in my mind with some kind of building or institution, whereas in military parlance it means the number of officers and other ranks there are in a unit. So with other words of ordinary language they have quite a different significance in the Army. Even the adjective is relegated to a different position. It has to follow the noun instead of having the pride of place. Brown leather laced boots become in the Army "Boots, leather, brown, laced." All this at first is confusing, but there is a reason for it all—a reason with thousands of years behind it. One gets a feeling that things were so ordained long before Pharaoh chased the Israelites out of Egypt.

For days after my duties of preliminary selection I was haunted in my dreams with having to select in a given time a limited number of men from illimitable lines of waiting soldiers. I used to awake from these nightmares in a cold sweat.

My next duty was to go into camp; not till then did I really plumb the depths of my ignorance. What is now almost as subconscious as walking was then a matter of painful steps, each step accompanied by an embarrassing vertigo, no doubt induced by the height of my responsibilities. To find out how men are fed, housed, clothed and disciplined in camp is an experience well worth the difficulties associated with its acquirement, and so also with the routine of life on a troopship.

I have reason to remember the early days on the troopship with a Colonel of the Permanent Forces as the Officer Commanding, or "O.C." as he is called in "King's Regulations." This, by the way, is a small, red covered publication which might be described as the military officer's guidebook. It contains more knowledge to the square inch than any cram book in medicine or surgery. It is a library in itself. In it is to be found instructions on anything from growing a moustache to conducting a court martial.

As a profession we enjoy an independence of thought and action that at first does not fit easily into military life. It is hard to have to do a thing because we are ordered to do so, more especially if that thing appears to us as stupid or absurd. After a day of apparently useless parades, in which one's clothing and other equipment and even one's facial expression were subjected to the keenest criticism,

an attack of mutinous temper was only averted by the recital of similar sufferings by a brother colleague.

Towards the end of the voyage, however, an order for parade would bring a smile rather than a frown. We were beginning to learn our lesson and gauge the relative value of this irksome military training.

As a profession I think we can claim that we know our work, and after all it is in the exercise of that knowledge that our prime duty in warfare lies; but without a thorough understanding of the principles and practice of military organization, we cannot use our knowledge to the best advantage.

Under our Commonwealth Military Scheme, every physically fit graduate in medicine will be a trained soldier, but not always of an army medical unit. Much as our natural instincts may prompt us to join the combatant ranks, we as medical men should refrain from doing so, and join the non-combatant Army Medical Service. Under whatever scheme we are organized in the future, there is never likely to be a surplus of medical men for the army. For this reason I hope to see every graduate a trained army medical man; that is, a man trained in the adaptation of his medical knowledge to the requirements of service during war time. There is only one way to do this in peace time, and that is by actual experience in military camp held at least once a year. Here he will acquire not only the principles and practice of military organization, but also a knowledge of his fellow officers, which is the main factor in successful team work. I imply that the various units organized in peace time would be immediately available for mobilization on the declaration of war. In the meantime, before this scheme is worked out, I hope to see it a condition of appointment to the honorary staff of a hospital that every candidate undertakes the obligations of military service. To those who have been in the actual war area there is only one conclusion arrived at with reference to voluntary military service in all branches. The day is over when the burden of war can be borne by the loyal and the willing. It must be distributed throughout the nation. We must have universal service.

On entering the Suez Canal and further on in the Mediterranean, we found ourselves in the actual war area. We felt it. British ships of war and those of the Allies we met in the Gulf of Suez and the Canal. It is laid down in King's Regulations that when a troopship passes one of H.M. ships of war, all on board must parade and stand to attention. We did. The restricted speed limit of the Canal, with the burning rays of the Egyptian summer sun, somewhat detracted from this otherwise interesting ceremony. By the time we reached Port Said we felt that we had seen the whole British and French fleets. In the few intervals between saluting these warships in the Canal, we had a close view on its banks of what

trenches really mean in actual warfare. This form of protection extended for miles along the banks and inland. About this period the submarine policy of our enemy was particularly active. Every night, after leaving Port Said, the ship was in total darkness, and we had little more to do than speculate on the chances of getting safely through. After the eerie feeling of the first night there came a peculiar calm, fatalistic attitude towards everything in general, more especially as to the value of one's own life. Near the English Channel, when we were all seated at breakfast one morning, a submarine was sighted by the officers on the bridge. The periscope appeared about half-a-mile astern, but disappeared. Coincident with the appearance of the submarine, our convoys arrived in the form of torpedo boat destroyers. It certainly looked as if the sudden submerging of the submarine had some connexion with the arrival of our convoys, one of whom went after it, but returned after a cruise round the spot. She caught up to us again without difficulty, although we were doing something in the neighbourhood of 17 knots on a zig-zag course. About an hour after this event, we passed through some wreckage; upturned life-boats and one dead body, all that remained of the steamer that had been torpedoed the day before.

On arrival at a port in the South of England at 6 p.m., we were ordered to disembark immediately, and go on board a troop train. There were many units on board our ship, and each had to be accommodated in a separate train. In the twilight and darkness of that first evening in England, during the disembarkation, I had the opportunity of hearing a polite embarkation officer gradually descend from the heights of Oxford English to the depths of Billingsgate slang. After a weary two hours shunting we eventually got away at about 11 o'clock. During this railway journey we ate our first army ration of bully beef and biscuit, washed down with plain cold water. We enjoyed it, having had no dinner. Nothing but a complete set of molars could make any impression on the biscuits. I am told that, broken-up and re-cooked, they make a delightful dish, which might be aptly christened "Anzac porridge," from the source of the recipe. We did not try it!

At our journey's end, at 4 a.m., we were met by a courteous officer, who inquired who we were, whence we came and whither we were going. This greeting took from us what little pride or individuality we had left. We were resigned, and felt quite equal to fulfilling the order that was issued:—"Bivouac on the platform and report to District Headquarters at 9 a.m." We bivouacked, and slept soundly on some splintery deal boards, till daylight. District Headquarters ordered us into camp a few miles out of town, where we were promptly put in quarantine on account of the measles which had occurred on the trooship. As Commanding Officer of the Unit, I was allowed to report in London to General Williams, now Sir William Williams, who was then the Director of Medical Services for the A.I.F. During the fortnight following, I had ample opportunity of

seeing how he had gained his high reputation as an organiser. I have to thank him for great help in the intricate paths of officialdom. My time was fully occupied in supervising the details of equipment of the No. 1 Australian Hospital Ship *Karoola*. These duties brought me in close contact with the officials of the War Office and Admiralty. Amongst others, I met Sir Alfred Keogh, who is head of the British Army Medical Service. He is a man in the early fifties, of medium height, alert and energetic in his manner. Around his room were graphic records showing the weekly incidence of sickness and wounds at the front. This was an index of the methods he used in keeping in touch with all the vast organization of the Royal Army Medical Corps. He has the quiet courtesy of manner which characterizes the great men of the world. There is none of the pompous soldier about him. You find that attribute amongst the subordinates you have to meet before getting to those in high authority. I had some difficulty in getting to those who could order the modification in the hospital ship designs, but by acting as my own postman, and seeing the various officials personally, it was found possible to get correspondence through in less than one day that takes five weeks in the ordinary course of events.

In general design a hospital ship is laid out in the same way as a shore hospital, medical, surgical, and isolation wards, X-Ray department, laboratory, operating theatre, dispensary and laundry. Stores are also fitted for hospital equipment, Red Cross supplies, etc. The wards are arranged by the removal of all cabin and other fittings so as to admit of a through draught from side to side of the ship. The beds for the stretcher cases are in the form of swing cots hung between short iron uprights. An arrangement is fitted to lock the cots to prevent them from swinging during the time the patients are being dressed. The wards are arranged on four decks from water level upwards. Those nearest water level are fitted with double tier berths to accommodate the patients who can walk about. Normally we had accommodation for 450 to 500 patients, but by fitting canvas cots and mattresses on deck a further 200 could have been carried in an emergency, providing the journey was only a matter of days and not weeks. The British hospital ships about the same size as the *Karoola* would frequently travel with two or three hundred over their normal number during the short journey between Gallipoli and Alexandria.

At the after end of the ship, between the three upper decks, containing surgical cases, and the operating theatre, on a still higher deck, there was fitted a stretcher lift worked by a hand winch. Beyond a little difficulty during the first week, this, as well as the second lift, worked well, and they were indispensable. The forward end of the ship was arranged for medical cases, as far as possible, and also had a lift between the three upper levels. These lifts fitted in the *Karoola* are standard Admiralty pattern, and for simplicity and efficiency could not be much improved upon. A simple winch with an endless wire rope, worked by hand-power,

is much less liable to mechanical derangement than one with electric or steam power. The hand winch had an automatic brake, so that if the one working the lift suddenly let the handle go the patient would not fall to the bottom.

The operating theatre was modified from the second saloon smoking-room on the boat deck. It was well lighted by an overhead skylight, hot and cold sterilized water was fitted to the sinks and hand basin. As to the instruments and theatre equipment, with the liberal funds placed at my disposal by the Australian Branch of the British Red Cross, I was able to amplify the standard equipment by purchasing direct from the manufacturers in London. Although not over supplied, we never lacked for anything. The usual complaint amongst other units was the lack of satisfactory catgut and suture material. We had plenty. We discarded the metal-topped operating table supplied in the equipment and had one constructed by the ship's carpenter out of stout wood. In the roughest weather this proved equal to all strains, and is still in use. Trolleys, tables, and theatre equipment generally, fitted with castors, are useless on board ship. Further, the centre of gravity had to be kept low in all movable articles. Anyone familiar with boating or yachting has no difficulty in devising simple fixtures to keep ward equipment and fittings from taking charge during stormy weather. Our breakages from this cause were, on the last voyage, only about 5% of what occurred on the first. While talking of the operating theatre I might say that operating at sea presented no real difficulties. The table must be arranged with its long axis thwartship. If arranged parallel with the length of the ship the patient would probably roll off the table. The heeling angle of a "pitch" is never equal to that of a "roll." At no time did we find it necessary to stop the ship's engines. As a matter of fact, in bad or even slightly rough weather, a ship with her engines stopped is much more unseemly in her behaviour than when under power. The big oscillations of pitching and rolling do not interfere with the surgeon, provided always he does not suffer from sea sickness. The minor vibrations of the engine, although appreciable, do not interfere even with the delicate manipulations necessary in the cranial cavity, and in an ordinary abdominal section it is not noticed at all.

From what now might be claimed as a wide experience in operating at sea, in a properly equipped operating theatre, I would say that there is no operation in surgery that could not be done on board ship as well as on shore—that is from the surgeon's point of view. From a patient's point of view, there is always the drawback of possible bad weather during convalescence, with its attendant discomforts. In smooth weather and in harbour this objection does not exist. It is unlikely that in any campaign in the present war the same conditions will obtain as at Gallipoli, where the hospital ships anchored off the beaches and acted for the time being as stationary hospitals. If similar conditions should arise again, then the experience gained from the hospital ships will be immediately

available to cope with the situation, instead of having to be learned at great cost, as in the early part of the Peninsula campaign.

At the end of a little more than a fortnight after our arrival in England, the *Karoola* was ready to sail for the Mediterranean, calling at Alexandria, Malta and Gibraltar. The outward part of this voyage was fully occupied in arranging the various stores in suitable places, and settling the organization of the staff, which consisted of 11 medical officers, 21 nurses and 84 orderlies. With all of them new to the work, there was little room for idleness.

Our original staff was comprised as follows:—

Lieutenant-Colonel: Gordon Craig (New South Wales).

Majors: W. Atkinson-Wood (Victoria), Bronte Smeaton (South Australia).

Captains: B. C. Kennedy, A. E. Colvin, R. Taylor (New South Wales), Johnson, Robinson, Renwick, Leon (Victoria), J. B. Lewis (Western Australia).

Lieutenants: Hooton, Dentist (New South Wales).

Matron: Miss Cooper of Windsor, New South Wales.

A system of embarkation was worked out to cope with the arrival of nearly 500 patients at the one time. In due course we took our complement on board, and our system worked well. It is one of the duties of Officers in Command to supervise the admission of the patients. In this way he is able to get from the very beginning a general grasp of the type of case admitted and the amount of work to be done on the voyage. The basis of the system is to have every bed in the hospital represented by a numbered tally card or luggage label. These are arranged in compartments in a suitably constructed box. One of the numbered tally cards is given to each patient as he comes on board. At any stage of the admission exact data are available of the number admitted and of the vacancies still remaining in each ward. The amount of work involved in taking the history and arranging the treatment of all these newly admitted patients was considerable, and provided ample occupation during the ensuing week for the medical staff, and for the nursing sisters and orderlies. Our first day at sea with patients was marked by rough weather. Ninety per cent. of the patients were ill with sea sickness, and quite an equal proportion of the staff were similarly affected. I need not dwell on the surroundings of the first few days of this voyage. By the time we arrived at Malta nearly all had got over their initial malaise. With this single exception very few of the staff were incapacitated from sea sickness.

At Malta, patients were conveyed to us in barges, and were shipped on board in a wooden cradle large enough to contain one stretcher. This was hoisted by the cargo derrick. During the voyage from Alexandria to Malta we had on board Colonel Purves Stewart, R.A.M.C., the author of the well-known text-book on the "Diagnosis of Diseases of the Nervous System." His appointment was then Consulting Physician to the Mediterranean Expeditionary Forces, and in that capacity visited all the

general hospitals in the Mediterranean area. He is a man short in stature, full of untiring energy. During the time he was with us he went into many cases of nervous lesions. He has a knowledge of the nerve tracks of the brain and spinal cord, with their peripheral distribution, that is beyond all ordinary standards. He has the faculty of rapidity and certainty in coming to a positive diagnosis. He can make a brilliant clinical epic from the driest bedside prose. There is no mystery about his methods, which are a thorough anatomical knowledge with a capacity to apply it at the bedside. His help was greatest in demonstrating as functional many lesions which up to that time had been accepted as organic and *vice versa*. It is worthy of mention that every case he sees he takes notes of. At the end of the day he transcribes them into a permanent indexed set of records, illustrated by a diagram of the lesion found. One officer, who is now in Sydney, was seen by Colonel Purves Stewart during this voyage. He demonstrated clearly, in his rapid systematic manner, that this officer had a central lesion of the left cuneate lobe leading to blindness of the lateral lower quadrant of the field of vision of the right eye. We may look forward, I hope, to the early publication of Colonel Stewart's experiences. His observations will prove of incalculable help to those who have to treat the nervous lesions of our returned soldiers.

The duties of the day from the medical officer's point of view started at 8.50 a.m., when a meeting of the whole staff took place, and reports were given verbally of the work done and in progress in the various departments. Cases were discussed, and the day's work planned out. Ward duties occupied the greater part of the morning, and operations were arranged during the afternoon. The Officer Commanding, after attending the morning staff meeting, was occupied in going through the daily diet sheets and complaints and requisitions from the various departments of the ship. When I remind you that it was a hospital of 500 beds it will be understood how much that meant. At 11 a.m. the daily inspection took place; the Officer Commanding was accompanied by the Adjutant, the executive members of the non-commissioned officers, and one of the ship's officers. At first sight it looked as if this formal daily inspection was purely a ceremony that might be omitted, but it proved to be an absolute necessity. Unless the Commanding Officer takes a personal interest in every department of the ship, a lowering of standards follows. What time remained after these official duties of the Officer Commanding was filled in by his seeing selected cases in consultation with the medical officers. In the afternoon he performed his quota of the operations. After 4 p.m. the whole staff made it their duty to take some form of physical exercises, and nothing but stress of weather or work was allowed to interfere with this sacred rite. The staff kept well throughout.

The journey to England from the Mediterranean was broken by the rescue of the passengers from a wreck in the Bay of Biscay. At 2 a.m. on a foggy night we received a "S.O.S." signal. After asking my concurrence in the attempt, Captain Morgan laid his course and stopped the engines at 7 a.m., with a

heavy fog still hanging around. In half an hour this cleared away, and so accurately had our captain gauged the position of our ship that the wreck was sighted at once, see-sawing on a submerged rock as the waves rose and fell. All were saved. Later we heard that she broke in two, each end sinking into deep water.

In the dusk of the evening that we arrived in port we had to alter our course for two steam trawlers who were carrying on a rapid conversation in the Morse code. Afterwards we found out that they had netted a German submarine.

On arrival in England, a classified list or nominal roll of all patients on board was handed to the embarkation staff, and the ship was emptied of all patients, including stretcher cases, in just over an hour. Two or more ambulance trains took them to the various hospitals, some of which were set aside for special cases, others for ordinary surgical and medical cases. The latter were sent in a group to any military hospital in England that had available accommodation. For example, eye cases and mental cases were considered as special cases, requiring special treatment in special hospitals.

The type of case carried on this voyage was in the main the same as on the subsequent voyages we made between Australia and the Egyptian General Hospital, except that on the last voyage, after Gallipoli had been evacuated, there were a greater number of medical cases. As time went on, the organization and training of the staff improved. After 12 months, 6 medical officers, 15 nurses and 64 orderlies can now do the work that 11, 21, and 84 respectively were required for at the beginning. The junior members of the original medical staff were released to join field units, and are now in France. The reduction was made at a time when junior medical officers were urgently needed in the field.

Before saying anything about the patient's ailments it is necessary to call attention to the wonderful general improvement that followed in practically all cases, medical or surgical, on our getting out into the germ-free atmosphere of the sea. Wounds especially did well. Frequently a septic wound of months' duration would heal in a fortnight.

As to the class of case that we carried, I may say at the outset that we received no acute cases from the firing line. The urgent surgery that was dealt with by us occurred as a complication in the course of treatment of those who had already received their early surgical or medical care. From my own observations in general hospitals, and those of others qualified to speak, in England and Egypt, there is not as much acute major operative work as one would at first sight expect in war, that is, behind the Casualty Clearing Station, and even there, only after a big engagement. By far the greatest part of the work is made up of the treatment of septic wounds, where the sepsis is often of the most virulent character. What is the best form of treatment in these acute cases of sepsis is yet a matter of controversy. You are all familiar, through the pages of the Medical Journals, with the arguments in favour of the hypertonic saline solution and the antiseptic

treatment. I am not in a position to say which is the better form. We do know that a measure of success is met in both forms of treatment. After the initial sepsis, which is usually due to some anaerobic, gas-forming bacillus, is over, it is followed, provided the patient survives, by a sepsis of the ordinary purulent type due to one of the staphylococci or to a streptococcus. This may mean months and months of after-treatment in hospital. For instance, on the last voyage we carried some men who had been in the landing at Gallipoli and wounded in the first few hours. They had been in hospital in England, Malta or Egypt for over a year. Many of their wounds were still unhealed. After this chronic suppuration has disappeared, then comes the stage when the careful repair of nerve and bone lesions may be undertaken with safety. There is a feeling current amongst many able surgeons experienced in this class of work that after the healing of a septic wound, say of a compound fracture, there exists a period of latent sepsis of some weeks' duration, during which it is inadvisable to operate. The explanation given is twofold; firstly, the patient's resistance is lowered by the long suppuration; secondly, actual organisms may be imbedded in the skin. We know that after dipping the finger into a pure culture of streptococcus no amount of mechanical or antiseptic cleansing will sterilize the skin at once. At least some days must elapse before the skin can be shown to be free of organisms. I made a small series of experiments in some twelve cases, and operated one week after healing of the septic wound. Iodine preparation of the skin was used and no suppuration occurred. This does not disprove the contention that the latent sepsis may last for some weeks; but it is suggestive, and I think that extended observation will probably demonstrate that the length of the latent septic period has been overstated.

The removal of foreign bodies, which were causing subjective symptoms, and also those which were giving rise to persistent sepsis, formed a considerable amount of the work. The most difficult of this type was a case in which a shrapnel bullet had entered near the mastoid process, and taking a direction forward and inward had become firmly impacted between the pterygoid plates near the base of the skull. Subsequent inflammatory reaction had involved the muscles of mastication and the temporo-maxillary joint. The patient could separate his incisor teeth only about one-third of an inch. With a finger inserted through a gap in the molar teeth I could just feel the bullet in the naso-pharynx. With a gouge inserted through the incision of a previous unsuccessful operation, just above the zygome, guided by my finger inside, I was able to dislodge the bullet from its bed and deliver it into the naso-pharynx. From there it practically rolled out of the mouth. I have heard quite recently from this patient, and he can now eat and chew his food comfortably.

Orthopaedic cases formed another large field of work. Ununited and malunited fractures. In many cases of this type I found the mechanical extension apparatus of Bradford and Lovett most useful.

Through the courtesy of Dr. Thorndike this was made for me at the Orthopaedic Department of the Boston Children's Hospital, some eight years ago, when I was on a visit there. In essence it consists of a screw extension with a perineal counter-extension. Overlapping ununited fragments of a femur or tibia can be adjusted most accurately and delicately under its influence, and then fixed by one of the steel plate devices of Lane, a bone graft, a plain carpenter's wood screw or silver wire.

Many septic, compound, comminuted fractures of the long bones were met with. These were treated by hypertonic saline baths or foments made up from boiled sea water, of which we had of course illimitable supplies, a matter of extreme importance on board ship. Many an arm, swollen, oedematous and brawny, would gradually subside after patient treatment and opening, every now and again, local collections of pus. A skiagram of such an injury shows in many instances the bone at the site of fracture, blown into numberless small pieces mixed up, very often, with metallic fragments. In spite of this, good but slow union takes place, with marked excess of callus. In these septic bone cases it may sometimes be necessary to sacrifice everything to the saving of a limb, but in a great number of them I feel sure that contracted claw-like hands, dropped feet, flexed wrists, knees, and the like, could have been prevented if there were a wider appreciation of the advances in orthopaedic surgery and especially of the teachings of Robert Jones, the great English orthopaedic surgeon. I had an opportunity of renewing my acquaintance with his methods of work while in London. He still retains that brilliance, vigour and energy while at work, combined with the charm of personality, that has made his reputation international.

Through Red Cross funds I was able to equip the ship with a full set of these splints, from the maker, Critchley, of Liverpool, England. Many were duplicated on board from sheet iron and rod iron purchased at the same time as the splints. Without this outfit, much of what I consider among the best work done on board could not have been accomplished.

At first sight, cystoscopes, oesophagoscopes, sigmoidoscopes, bronchoscopes and the like would not appear to have much scope on board a hospital ship. I took my own personal outfit with me, and had no reason to regret it. Quite a big field for cystoscopic work exists amongst the returned soldiers. Several haematuria and pyuria cases were investigated, and many an obscure case of pyrexia proved to be a pyelitis. So far, I have not yet seen a case of bilharziosis amongst the soldiers. For some years after the Boer war I saw sporadic cases. I feel sure we will see a big number for years to come as a consequence of the long sojourn of our troops in Egypt. While the ship was at Suez, through the agency of the oesophagoscope, I was able to remove an impacted artificial tooth plate from the oesophagus of a soldier. I was able to bite off with suitable forceps the portion of the plate that was caught in the mucous membrane. Captain Robert Taylor, formerly my resident at the Royal Prince

Alfred Hospital, administered the intratracheal insufflation anaesthesia. The apparatus used was the design of Dr. Lidwill (Honorary Assistant Physician at the Royal Prince Alfred Hospital), and worked perfectly. Our dentist remade the man's plate, and he went back to his unit at Tel-el-Kebir in three days' time, able to swallow a full diet.

We carried back a lot of men to Australia who should never have left it. This fact should be known by all those medical officers who examine recruits. A thorough examination of the feet is not sufficiently appreciated by some. Numbers of our troops have never reached the firing line because route marches and active training in Egypt have proved too much for their weak feet. It is flat foot they suffer from, not "cold feet." Unless a man can hop or walk on his toes for about a minute he should be rejected. There are other tests, but the one mentioned is a good practical one. The number of blind eyes, inguinal hernias, incisional hernias from previous operations, stiff joints and other obvious defects that have caused the return of soldiers reflect on the standard of examinations at this end. A keen recruit tries to hide his defects; the examining officer should be keen enough to detect them. When I last left the war area there were only two classes of men, fit and unfit. Experience has shown that men with defects, or those fit for so-called light duty only, were more nuisances than they were worth. They might be useful for home service, but, unless under very exceptional circumstances, when a man has special qualifications, there is no place for them in the A.I.F., either in the combatant or non-combatant ranks.

Complications following head injuries formed an appreciable number of the cases. Persistent headaches and Jacksonian epilepsy required in some instances decompression or cranial exploration. One case is worthy of mention: A man suffering from marked Jacksonian epilepsy following a bullet wound and gutter fracture near the right parietal eminence. He had been operated on three months before. The cortex was found adherent to the scalp. I separated the adhesions and trimmed off the sharp edges of bone. To prevent adhesions re-forming, I inserted a circular piece of thin rubber membrane between the cortex and scalp. Healing took place by first intention. He did not have any further fits during the voyage. The thin rubber membrane for this operation was obtained from one of the soldiers on board. The gift was anonymous. The French nation have long been famous for the rubber preventives they make against procreation of the human race or the contraction of venereal disease. In the manufacture of these goods only the very best rubber is used. It can be boiled for half an hour without losing its tensile strength or elasticity. I commend this tissue to my colleagues for trial in surgical work. A detailed report of this case, with after-history, will appear later.

Of venereal patients we carried none as such, but in a few instances patients with surgical lesions had contracted this disease. The men of our unit were given lectures and instructions in the prophylaxis of venereal disease. Calomel ointment (strength

30%) and an injection of argyrol (15%) were the measures used. I have no reason to believe that all the members of our unit resisted the sirens of the seaport towns, nor that the sirens were all free from venereal infection, yet after the unit joined the *Karoola*, and accurate records were kept, no cases of venereal disease occurred, if I exclude one case of slight urethral discharge, which was obviously a rerudescence of an old gleet.

A sufficient number of cases of haemothorax came under our observation to establish the principle that expectant treatment is the best. Sometimes cardiac distress from mechanical displacement of the heart by the effused blood requires relief by tapping under strict aseptic conditions. Even after some months, suppuration may occur, and require draining; this is the exception. In many of these cases the temperature may run up to 101° when only blood is in the pleura; fever *per se* does not mean suppuration. If there is doubt, a careful exploratory puncture with a syringe is justifiable. There is a guide apart from this obvious step in the physiognomy of the patient. Fever from the absorption of blood is never accompanied by the same facial expression as that due to commencing suppuration. A parallel condition occurs in the blood-filled abdominal cavity after a ruptured tubal gestation.

The last group of note was the number of dislocated semi-lunar cartilages of the knee joint. The Gallipoli campaign, which meant the heavily burdened soldiers climbing and descending the hilly slopes paved with loose stones, caused many a sound knee to break down, and many a "football knee" to relapse. I have never had in civil practice so many in hospital at one time. About fifteen were operated on and all did well. There were others who refused operation.

A type of case new to me, of which we had many, was that of rheumatoid arthritis, involving many joints of the extremities, following typhoid or paratyphoid. We are all familiar with the usual typhoid joint, but I had never seen the involvement of so many joints in a single patient.

Time will not admit of my going into any details of the medical cases. Relapses of amoebic and bacillary dysentery were frequent in our early experience, and later typhoid and paratyphoid fever took their place. Organic heart disease, nephritis, rheumatism and pulmonary tuberculosis were always well represented. Shell shock and the closely related neuromimesis caused many an interesting bedside problem. These cases require careful handling, and are to be distinguished from the true malingerer who needs the force of a straight-aimed truth to restore him to his sense of duty. My military obligations prevent me from giving statistical records of the numbers carried, but the relative proportion of traumatism of war to disease might prove of interest. On our earliest voyage, the numbers of wounded and those suffering from disease were about equal, and on our last voyage disease outnumbered the other by two to one.

Before I conclude I want to draw attention to the one crucial point in administration on board a hospital ship, viz., the relationship between the

military Officer Commanding and the Captain of the ship. Over the hospital and military section, the former has full control, but there his duty ends. The Captain, on the other hand, is always in supreme command. A clear appreciation of this point will make for smooth working. From what I have seen on other ships this fact is not always realized. A strict observance by the Officer Commanding of the ordinary courtesies due to a superior officer will go a long way towards establishing a harmonious relationship between the staff of the ship and staff of the hospital. I need hardly mention that we were a happy family on the *Karoola*. Much more I might say, but I hope I have given you enough to form some idea of the life on a hospital ship and the duties involved in its command. Whether the work of a surgical nature I did for the soldiers was worth while giving up twelve months of civil practice, with its attendant financial and social sacrifices, I am not in a position to say. My time was not all filled by surgery, but it was full of work. I found the life intensely interesting, and I would not have missed the experience for any measure of material wealth.

Reports of Cases.

RUPTURE OF THE BLADDER.

By C. E. Todd, Honorary Major, A.A.M.C.,
Surgeon, the Adelaide Hospital and the 7th Australian General
Hospital.

I can only recall having had under my care two cases of rupture of the bladder during the time I have been surgeon to the Adelaide Hospital. The accident must, therefore, be one of considerable rarity. According to statistics the majority of the cases occur in men who have been drinking and who are therefore somewhat indifferent to the presence of an over-distended bladder. If such persons meet with an accident which crushes the lower part of their abdomen a rupture of the urinary bladder is very likely to occur. A fractured pelvis and a ruptured bladder are very frequently associated, but I have never heard of a case exactly similar to the first one I am about to report.

The two following cases bring out very clearly the difference in the risk of an extra and an intra-peritoneal rupture. The first case presented considerable difficulty as to diagnosis. The surgeon who saw the patient first, and came up with him from Victor Harbour, had diagnosed ruptured bladder for the reason given in the notes of the case which he has kindly sent me. When I visited the Hospital the House Surgeon reported that the man had passed without difficulty twenty-six ounces of urine subsequent to admission. The first quantity was very blood-stained, but the last was hardly so at all. I passed a Jacque catheter and drew off urine not apparently blood-stained at all. I then injected six ounces of saline solution, and exactly the same amount was returned. This did not seem to point to ruptured bladder. By a curious coincidence I had had a patient in the same bed that this man occupied who had been injured in the right kidney and bladder region by a motor omnibus. He passed at first heavily blood-stained urine, which gradually cleared up, and the case went on to slow recovery without any operative interference. As this man was in a state of marked shock, I decided to see him again at midday. He had then passed more urine with very little blood, but he still was in a condition of obvious shock. I, therefore, had him sent straight to the operating theatre and exposed his bladder by a suprapubic incision. The tissues behind the pubis and in front of the bladder were infiltrated with urine. Having got in two catgut string sutures I incised the bladder between them. In introducing my forefinger I felt a spicule of bone an inch long pro-

jecting into the bladder and still attached by one end to the pubic bone. The bladder wall round the site of puncture was very thick and edematous, so that no urine could escape round the bony projection. Evidently when the pubes were first fractured this bony spicule was driven backwards through the bladder. There was for some time ample room for the urine to escape. As the irritation was continued and the bladder became edematous this bony fragment must have been so tightly grasped that any further leakage was completely prevented. It was this fact which put me completely off the scent of the ruptured bladder. It was only the history of the careful surgeon, Dr. Douglas, who first saw the patient, together with the patient's persistent condition of shock, that induced me to perform the operation. The projecting piece of bone was easily removed, and a large drain was introduced into the bladder. The man made an excellent recovery. However, after the suprapubic wound closed, he was unable to pass urine the natural way. I tried to pass a catheter, but could not, and on exposing his urethra at the junction of the membranous and bulbous portion I found it obstructed by dense cicatricial tissue. This was removed and a catheter tied in. Evidently in addition to the punctured bladder the man had ruptured his urethra at the time of accident. It is strange that in the early stages I was able to pass a Jacque's catheter without any difficulty. The man is now quite well.

The other case was of a very different kind and had a very different ending.

The patient was a man about 50 years of age. He was admitted to the Hospital within an hour of being run over by a horse roller with which he was rolling grass. He was in a condition of profound shock and had acute pain in the lower segment of the abdomen. There was frequent desire to urinate, but he only passed a few blood-stained drops at each effort. A diagnosis of rupture of the bladder was made, and the patient operated on by suprapubic cystotomy at once. A bursting rupture was found, commencing in the top of the bladder inside the peritoneal cavity and running down into the space behind the symphysis pubis. A large quantity of alkaline urine was extravasated into the cavity of Retzius, and the peritoneal cavity contained a great deal more. This was removed as far as possible. I was suspicious that it was septic, as it was strongly alkaline, and there had not been enough time for decomposition in the tissues. So far as I could make out, there was no fracture of the pelvis. The rent in the bladder inside the peritoneum was very ragged. I therefore cut the edges straight all the way along, and sewed up the hole by a single row of catgut stitches, getting the raw bladder surfaces in good apposition. I would like to remark that I never put in two rows of stitches in uniting the bladder as the books direct. It is the cut edges of the bladder which unite, not the outer covering, which is not like the serous surface of the bowel. I put a drain into the peritoneum above the bladder and one into each kidney pouch. The first result of the operation was to relieve the profound shock, but the temperature and pulse-rate soon went up; the abdomen became distended, and the patient died of septic peritonitis. Doubtless the urine was septic at the time of rupture of the bladder, as the operation was done long before decomposition in the tissues could have taken place.

The following are Dr. Douglas's notes on B's case before his admission to Hospital:

The patient was injured by a fall of earth at the Waterworks, Hindmarsh Valley, on Thursday, 27th May, 1915, about 4 p.m. He was first seen by me at midnight, eight hours after accident, at his home, five miles from the works. He complained of severe pain in the lower part of the abdomen and inability to pass urine. He was not at all collapsed. A soft rubber catheter was passed, and some very bloody urine was drawn off.

May 28, 8 a.m.: I again visited the patient. The pain was less. He had passed some urine naturally; it was only slightly discoloured. There was no sign of extravasation. The patient was again catheterized, and bloody urine withdrawn. A ruptured bladder was diagnosed, probably in the vault and with valvular tear (to account for passing almost clear urine). I took patient to Adelaide Hospital by motor car (46 miles). He stood the journey excellently, and complained of very little pain.

August 6, 1915: The patient was seen again. I passed a silver bougie, No. 9, with difficulty.

August 13, 1915: I passed graduated bougies, Nos. 9-12, still with difficulty, as the stricture was rough and bent to the right. Since then I have passed the same bougie at gradually increasing intervals, the last occasion being on September 1, 1916, after two months' interval. The stricture easily dilates up to 12. The patient has promised to present himself again in three months' time. He is practically as well as ever.

A FURTHER CASE OF EXTRA-PERITONEAL RUPTURE OF THE BLADDER.

By H. Rischbieth, F.R.C.S.,
Acting Assistant Surgeon to the Adelaide Hospital.

The clinical picture of any clinical condition as represented in text books represents an average; and cases of rupture of the bladder show symptoms and signs which are ambiguous. Since many are associated with fractured pelvis, and the nature of the injury causing this and the rupture must vary almost indefinitely, variety in clinical features and morbid anatomy is to be expected. It may, therefore, be of interest to compare the following case with the two described by Dr. Todd.

History.—J. P., aged 19 years, was admitted to the Adelaide Hospital at 10 p.m. on Saturday, September 2nd, 1916, together with his elder brother. Both were in a condition of alcoholic intoxication, and were unable to give a clear account of themselves. But a friend stated that the three had been motoring in the hills, and that about an hour previously the car had overturned. J. P. was pinned to the ground by a front spring of the motor car, which had fallen upon the lower part of his body. On admission he showed slight abrasions and contusions of the face, and, on inquiry, stated that he had pain in the lower part of the back. But he was mentally confused, and answered questions vaguely. There was very little shock. The pulse-rate was 88, and the respirations 20. Examination showed no further injury; no fracture could be discovered. He had not passed urine since the accident. Next morning he had an urgent desire to micturate, but was unable to do so; and his bladder was distended. The House Surgeon therefore passed a catheter. He drew off many ounces of bloody urine, like almost pure arterial blood.

I saw J. P. for the first time about an hour after this, that is to say, about 12 hours after admission and about 13 hours after the accident. He then stated, on enquiry, that he had a feeling of tightness in the lower part of the abdomen (placing his hand on the hypogastrium) and pain in the lower part of the back (lumbo-sacral region). He had not passed any blood per urethram.

Physical Examination.—The abdomen was neither distended nor retracted, and moved normally on respiration except in its lower half. There was no rigidity. On percussion there was dulness extending from the symphysis pubis nearly up to the umbilicus and outwards into the flanks. This did not shift. There was no haematoma or extravasation in the perineum. He looked sodden, but the general condition was otherwise good. The pulse-rate was 84 and the temperature 98°. No fracture could be discovered.

Extra-peritoneal rupture of the bladder was diagnosed, with, possibly, a fracture of the pelvis; and immediate operation was decided upon.

Operation.—After the usual supra-pubic incision and gauze dissection the bladder was exposed. Two catgut traction stitches were passed through the muscular coats. Gauze dissection in the prevesical space of Retzius and perivesical tissues of the left side revealed a transverse fracture of the horizontal ramus of the left pubes. There was no displacement and no further fragmentation. Much thin bright red blood, or rather blood and urine, kept welling up. On continuing the gauze dissection and retraction of the bladder a rent in its anterior surface was revealed. This was roughly ovoid, with long axis vertical and about $\frac{1}{4}$ inch long, about 1 inch to the left of the middle line. It involved approximately the lower third of this surface, and its lower extremity extended nearly to the neck of the bladder. No other injury to the bladder could be discovered.

The rent was sutured with catgut in layers, and the space of Retzius drained by a medium-sized rubber tube for four days. In order to exclude the possibility of overlooking further intra-abdominal injury this wound was packed off, and after the gloves had been changed the peritoneum was opened and the cavity ascertained to be normal.

Subsequent History.—On the third day urine began to leak out around the drainage tube. The tube was therefore removed. This occurrence made me regret having used catgut for the suture of the bladder, instead of chromicized catgut. Progress was otherwise uneventful. The supra-pubic wound was completely healed by the 21st day.

In this case there were the data for diagnosis:

- (1) From the History—
Drunkenness and probably vesical distension; a crushing injury to the lower abdomen.
- (2) From Examination—
Strangury; the withdrawal of a large quantity of bloody urine by catheter; dulness in the hypogastrium extending outwards into each flank, which did not shift.
- (3) Negative facts excluding rupture of urethra as well as rupture of the bladder:—ease in passing the catheter, absence of blood per urethram, absence of a haematoma or extravasation in the perineum.

This individual showed no shock at the time of coming under observation.

Notes on Books.

FIRST AID

"First Aid in the Laboratory and Workshop"¹ is one of those little books which contain information for the amateur for use in emergency. In the case of accidents, the question arises whether some of the advice given is not fraught with more danger than if nothing were done. If the accident is trivial, the kindly friend will be well advised to leave any wound alone. In the book he is advised to clean the wound, remove foreign bodies, stop the bleeding and cover and bandage. In the case of severe wounds, he is even asked to treat shock. Similarly, he is recommended to "treat" burns, mechanical injuries of the eye, etc. It would seem a safer plan to shorten the book by 31 of its 32 pages, and to suggest that if the accident is mild, he should leave the patient alone, and if it is severe he should send for a doctor, and, in the meantime, attempt to control free haemorrhage by pressure applied over the wound with the cleanest piece of linen, cotton wool or gauze at hand. The rest is not likely to be of avail.

In a statistical study distinguished by much originality of treatment, W. H. Thompson has estimated the food value of Great Britain's food supply. He has employed the figures for the year 1908 since a census of home production was made in that year. Usually statistics on the food supply neglect the amount of food produced and consumed in the home. The population of the United Kingdoms was 40,200,000, which was taken as 30,995,000 men on the basis of Atwater's diets for women and children. The amounts of proteins, fats and carbohydrates present in the total food supplies, is calculated, and from these figures the heat value in litre-calories. On division of these figures by the man value of the population the average yearly diet is obtained from which the daily food ration can be deduced. This ration works out at protein 101.7 gm., carbohydrate 557 gm., and fat 136 gm., yielding 4129 litre calories. Deducting 7.5% for loss during distribution the value of the ration as purchased is assessed as protein 97 gm., carbohydrate 546 gm., fat 29.5 gm., with an energy value of 3875 litre calories.

Dr. Lindsay Dey has resigned his position of Chief Resident Medical Officer at the Royal Alexandra Hospital for Children, and has been appointed Honorary Anæsthetist at the same institution. He has entered into partnership with Dr. John MacMaster, of Miller Street, North Sydney.

¹ First-Aid in the Laboratory and Workshop, by Arthur A. Eldridge, B.Sc., and H. Vincent A. Briscoe, D.Sc., with a Foreword by Surgeon-General Sir Alfred Keogh, K.C.B., 1915. London: Edward Arnold; 8vo., pp. 32. Price, 1s.

The Medical Journal of Australia.

SATURDAY, NOVEMBER 25, 1916.

The A.A.M.C.

The value of a machine is dependent on three things. In the first place the best material must be used in order that maximal efficiency and durability may be attained. The second essential is that every part shall be so constituted that its function may be properly fulfilled. In the third place the various parts of the machine must be co-ordinated, and smooth working must be ensured by a suitable interaction and by the removal of undue stress on any part of the whole. Defects in one or other of these essentials means a weakness in the machine. A single flaw in the planning, construction or working of the machine may render the excellencies of the remainder ineffectual, and may lead to a failure of it to serve its purpose. For many months responsible and irresponsible critics have raised their voices to point out the defects of the Australian Army Medical Corps. The critics have emphasised what appeared to them to be the wastage of energy, the wrong application of material and the want of prominence given to the functions in which they were most interested. The authorities have apparently not been moved by the vapourings of these malecontents, nor have they felt themselves constrained to recast their plans when the complaints of individuals appeared to have a good foundation. Before we are justified in condemning the organization, evidence must be produced to substantiate the assertions that the machine has failed in any important function. It may therefore be of use to review the position, as far as the information at our disposal permits.

In our issue last week we published the general contents of a letter which the Dean of the Faculty of Medicine read to the Senate of the University of Sydney. This letter is of great importance to all Australian practitioners. From it we learn that the authorities in the Royal Army Medical Corps regard the young Australian medical graduates as the best

juniors serving in that body. The writer of the letter was not in a mood for flattery or extravagant solicitation for more when he wrote that without exception these young men had proved themselves to be "extremely good and capable, not only at their professional work, but by their adaptability and by their willingness to go wherever ordered without demur." In the early stages of the war there were admittedly defects in the organization in the Australian Army Medical Corps directly traceable to unsuitable material, but more recently the Director-General at the front has pressed for young men only for ambulance, field and clearing station work. We may therefore assume that we have the very best material for the machine in these young men, who have completed their studies rapidly in order to do their duty to their country. Many senior practitioners may take a lesson from these young men. The early failure was in part due to the fact that men who had held responsible positions in civil life found it difficult to learn discipline and to sink their personal desires in favour of the commands of those placed over them. The young men, however, do not constitute the whole of the medical branches of the Australian Imperial Forces, and far less of the Australian Army Medical Corps. Senior men of proved ability, specialists with great reputations, and men with wide and varied experience have lent their aid and have contributed to much of the good work achieved abroad and at home.—On the other hand, we fear that some of the important positions are held by practitioners whose technical and military knowledge, experience and skill are not of a sufficiently high standard to guarantee real efficiency. The authorities probably find themselves in some difficulty in this respect, because the number of important positions in the service is large and the number of suitable men is limited. The obvious remedy is the one with which we dealt last week, namely, that every practitioner in the Commonwealth should place himself at the disposal of the authorities. Were this done, a better selection could be effected. We may therefore sum up the first part of our enquiry by stating that the best material any country could wish to have is present, and could readily be made available. Flaws in this

respect exist largely in the men who have complained loudest and longest of defective organization. Many of these men want the rank of General at least, and the pay of a High Court Judge, and will not submit to military discipline and to the principle of "going wherever ordered without demur."

The second question concerns the individual parts of the machine. Have they been planned in such a manner that each fulfils its functions properly? In the present issue, members will read with interest and advantage a very able article by Dr. Gordon Craig on the organization of a hospital ship unit. From this account and from common knowledge of the conditions both abroad and at home, it will be recognized that the different parts of the service have arisen in the course of the war, and that their evolution has been uneven, to some extent experimental, and at times erratic. We have now reached a stage at which past mistakes can be utilized for future improvements, and the experience of the Royal Army Medical Corps and of the medical services of our allies and of the enemy, and the ingenuity of our own organizers give promise that the various services can be developed to act well each in its particular sphere, and without interfering with one another. In the *British Medical Journal* of September 16, 1916, there is an article giving the salient parts of a letter addressed by a Rumanian correspondent to the *Münchener medizinische Wochenschrift*, which every medical man in the Commonwealth should read. The writer explains how one of the worst medical services has been converted into one of the most efficient in Europe. Unfortunately the author does not detail the steps adopted to effect a reorganization of the individual services, nor does he explain how the proper selection of the most competent men has been achieved. In our own Medical Corps, there is need of reconstruction of some of the existing services, and as we have repeatedly pointed out there is urgent need for the institution of an orthopaedic and of a neurological service, planned on up-to-date lines. A high degree of efficiency has been attained in the individual services in the British forces, in the French medical corps, in the German, and ap-

parently in recent times in the Rumanian. Why Australia should remain behind in this respect we cannot conceive.

The matter of co-ordination and proper adjustment of the machine as a whole still remains to be discussed. A very few words will suffice. As long as the individual parts are not in a satisfactory state of development, perfect co-ordination is impossible. We admit that marked improvement has come in recent months, but more is needed. There are, however, signs that we may soon see the Australian Army Medical Corps changed into a splendid machine. The indications are the appeal to all members of the profession to enlist voluntarily; and the proposals to extend the powers and functions of the District Medical Committees, so that the task of the selection of men for special positions and for special functions may be made in the first place by a body of experts who have full knowledge of the qualities and capabilities of the men available. The authorities would make the appointments after the recommendations of the District Medical Committees had been placed before them.

THE CHILD WELFARE EXHIBITION.

An exhibition which has been termed the most important ever held in Adelaide, was opened by the Premier of South Australia on November 2, 1916. For a week the attention of the public was attracted to babies and children, and many lessons were delivered to the persons in need of them in a manner that stands pre-eminent for such a purpose. There is no doubt that the most effective way of teaching the public is by objective lessons. All education authorities agree that infants learn best when objects are placed in their hands. Older children are more impressed by a scene than by anything read. Adults rarely forget the contents of a play produced in the theatre, although the contents of a book may dissipate after the course of a span of time. The people of Adelaide were given objective lessons connected with every phase of infant and child life, and from these pictorial representations and models they were enabled to visualize

the factors which make for health, sturdy development, and safety of the young, as well as the factors which breed mental and bodily deformity, misery and disease. These object lessons were supplemented by lectures delivered by capable experts on the various problems involved in the endeavour to reduce infantile mortality and to improve the moral and physical tone of the young. The verdict might well have been that the Child Welfare Exhibition was the most important social development yet undertaken in Australia.

The organizers of the Exhibition have recognized that their endeavours cannot be limited to this one undertaking, notwithstanding its exceptional excellence. The Premier outlined some means which the Government of South Australia had in view for the purpose of coping with a high infantile mortality. These include support to be given to the School for Mothers, which stands under the patronage of the local branch of the British Science Guild, an investigation into the securing of a pure milk supply, the institution of open-air schools, and improved school conditions for all children throughout the State, and a plan for the exercise of a control over the home conditions. Provided that care be exercised that these undertakings are carried out with circumspection by those really competent to put them into effect, nothing but good can emanate. The functions of the baby clinic and of the school for mothers are directly life-saving, when the advice given is hygienic, and when the nurses employed are trained to distinguish between preventive measures and the treatment of disease. It is probable that well-trained women who visit the homes of the poorer individuals of the community, and who act as guides in the clinics and schools for mothers and girls would be able to effect a greater reduction in infantile mortality than any number of medical practitioners treating children already ill. Again the proper control of the milk supply must be of great value, but the one danger that has been met with in various cities where a large programme of this kind has been carried through is that women are inclined to rely too much on the artificial food, and to desist in the attempt to give their babies nature's unrivalled nourishment. The

proposal to multiply infant hospitals through the State is open to great objection, unless ideal conditions can be provided. A children's hospital is liable to be a danger to the little ones, if the patients are brought into close contact with one another, if the nurses are not numerous enough to render it possible for individual care to be bestowed on single infants, and if the structure does not lend itself to isolation in every case of doubtful nature. The public of South Australia's beautiful capital should take to heart Dr. Rischbieth's statement that notification is an essential in the endeavour to cope with venereal infections. It will be remembered that Dr. Rischbieth has recently started a venereal diseases clinic at the Adelaide Hospital, and the public may rest assured that he will exert his influence as far as is possible to limit the effect of syphilis on the coming generation. The task is a herculean one, especially if no adequate departmental activity is awakened to support him. In the last place, prophylactic measures, based on sound teaching, were dealt with by Dr. Hone in his lecture on pre- and post-natal care of infants, by Dr. Helen Mayo, who spoke on first-aid to children, and by Dr. Jean Grieg, in regard to open-air schools. All these utterances reassure us that the means which will be adopted in South Australia to conserve health among the young will bear ample fruit in the near future.

VENEREAL DISEASE IN THE GERMAN ARMY.

The *Lancet* of September 23, 1916, contains a resumé of a Report to the National Council for Combating Venereal Diseases on the Control of Venereal Disease in Germany during the War. The information given in this article is of peculiar interest to us at the present time, when this subject is attracting our special attention, and when various mild and extreme, practical and ideal proposals have been put forward. It appears that in 1870 von Töpley enunciated an axiom that the incidence of venereal disease rises steadily during the course of war. The prevalence of syphilis, gonorrhœa and soft sore among the German troops is estimated at approximately 4%. In the period 1910-1911 it was 1.99 per hundred soldiers. This state of affairs created anxiety in the minds of the military authorities, and was the direct incentive to a comprehensive scheme of prevention. In June, 1915, von Hindenburg issued an order threatening any woman who cohabited with a civilian or soldier in spite of

the knowledge that she was suffering from a venereal disease, with imprisonment not exceeding one year. Prostitutes who failed to register themselves were also to be imprisoned. Other measures were taken to remove soldiers from the risk of contracting these diseases. The second stage in the prophylaxis was the enforcement of preventive measures, including the condom, calomel ointment and solutions of silver nitrate. The *Lancet* looks askance at these measures, and points out that the aesthetic aspect of this system seems to have been lost sight of. From the point of view of preventive medicine, there are many who will not share the qualms expressed by our contemporary. It is true that the condom carries with it a reduction in the birth-rate, but no less an authority than Neisser is prepared to advocate its employment, notwithstanding this disadvantage. He goes as far as to teach that if the *Deutsche Gesellschaft für die Bekämpfung der Geschlechtskrankheiten* (German Society for the combating of Venereal Diseases) dissociated itself from the teaching of individual prophylaxis, its bankruptcy would be inevitable. An energetic scheme of treatment of syphilis and gonorrhoea is in force, and measures are adopted to fit this scheme with continued service when this is possible. The last stage in the anti-venereal campaign is foreshadowing what they propose doing after the war. The *Lancet* wisely appends to these plans the provisos that the enemy will have at its disposal a sufficient sum of money, and that its people will be willing to submit to far-reaching restrictions of personal liberties. Blaschko proposes that every soldier who suffered from a venereal disease during the war should have to be placed under military control until negative Wassermann reactions or the absence of gonococci satisfy the expert that the infection has been cured. The Insurance Societies are apparently prepared to undertake the observation and treatment of these cases, and it is stated that this activity will be spread beyond the limit of the insured, to include every case of syphilis which is notified to the central authorities. In addition, a drastic reform in the control of prostitution is favoured. We learn that Blaschko and Neisser are not in agreement in regard to the registration of brothels. The former advocates their closure, at all events during the war, as he regards these houses as a powerful stimulus to immorality. Neisser holds the opinion that a well conducted brothel is less dangerous than uncontrolled prostitution.

A PERENNIAL FARCE.

That hardy annual, which appears in the gardens of the Victorian Parliament every spring and yet never blossoms, has come up again, has been transplanted to put it back for three weeks, and we presume will be pruned so heavily that all prospects of a flower this year will be destroyed. Mr. Outram moved on November 9, 1916, the second reading of a bill to abolish compulsory vaccination. There were no new arguments on either side. Indeed there can be no new arguments. The prophylactic value of vaccination is proved up to the hilt. The dangers

of vaccination have been analysed from every point of view and may be described briefly as follows: When human lymph is used, syphilis and other infective processes may be transferred with the specific virus. Provided that only carefully prepared calf lymph is employed, the amount of harm that can be done is negligible. Generalized vaccinia is very rare and is not fatal. A healthy child tolerates the reaction without any marked general response, and in the vast majority of cases becomes immune to variola without suffering more than a few days' mild inconvenience. Mr. Prendergast enquired in the debate why, if vaccination were a preventive of small-pox, it had not been adopted in England by compulsion. The reply to this question may be given in the form of another question. Why did the people of Australia refuse to adopt conscription, seeing that it has been proved that reinforcements are needed at the front and that a sufficient number cannot be secured by voluntary enlistment? If Mr. Prendergast will explain why the community as a whole so frequently recommend the wrong course, he will receive a reply to his question.

Naval and Military.

The 243rd list of casualties was issued on November 20, 1916. The list contains an unusually large number of names of officers, the majority of whom, however, are reported sick. We note with regret that Major H. H. B. Follett and Captain S. P. Little have been wounded. The following officers of the Australian Army Medical Corps are ill in hospital:—Major C. A. Edwards, Major W. S. Sweet, Captain S. T. Dunlop, Captain F. C. Burke-Gaffney, and Captain J. D. Norris.

The following announcements in regard to appointments have appeared in the *Commonwealth of Australia Gazette*, No. 161, of November 10, 1916, and No. 166, of November 17, 1916:—

Army Medical Corps.

4th Australian Division.

The temporary appointments of the undermentioned officers are confirmed:—

Lieutenant-Colonel G. W. Barber as Assistant Director Medical Services.

Major A. H. Marks as Deputy Assistant Director Medical Services. Dated 20th February, 1916.

Lieutenant-Colonel G. W. Barber is granted the temporary rank of Colonel whilst holding the appointment of Assistant Director of Medical Services. Dated 20th February, 1916.

5th Australian Division.

The temporary appointments of the undermentioned officers are confirmed:—

Lieutenant-Colonel C. H. W. Hardy, C.B., V.D., as Assistant Director of Medical Services.

Major H. H. B. Follett as Deputy Assistant Director of Medical Services. Dated 20th February, 1916.

Lieutenant-Colonel C. H. W. Hardy, C.B., V.D., is granted the temporary rank of Colonel whilst holding the appointment of Assistant-Director of Medical Services. Dated 20th February, 1916.

1st Light Horse Field Ambulance.

To be Major—

Captain N. K. Robertson. Dated 29th June, 1916.

To be Major—

Alexander Pentland. Dated 15th October, 1916.

To be Captains—

Captain (provisional) P. A. Stevens, Australian Army Medical Corps. Dated 3rd October, 1916.

Captain (provisional) R. O. Douglas, Australian Army Medical Corps. Dated 25th October, 1916.

Honorary Captain C. Checchi, Australian Army Corps Reserve. Dated 25th October, 1916.

Honorary Captain G. A. Blumer, Australian Army Medical Corps Reserve. Dated 25th September, 1916.

Honorary Captain J. A'B. D. Barton, Australian Army Medical Corps Reserve. Dated 19th September, 1916.

Honorary Captain P. Cockburn, Australian Army Medical Corps Reserve. Dated 29th September, 1916.

John Rhys Williams, John Wilkie Young, and George Sutton. Dated 1st August, 1916.

Thomas Handcock Strangman. Dated 14th September, 1916.

Bernard Brooks Blomfield and George Vernon Davies. Dated 22nd September, 1916.

Hubert James Orr and Charles Fetherstonhaugh. Dated 9th October, 1916.

Cyril Florence MacGillicuddy. Dated 16th October, 1916.

Termination of Appointments.

The appointments of the undermentioned officers are terminated from dates as stated against their respective names:

Lieutenant-Colonel G. A. Marshall, V.D.—30th September, 1916.

Captain K. G. Aberdeen—25th September, 1916.

Captain R. M. F. Cameron—24th September, 1916.

Captain T. W. Brown—28th September, 1916.

THE DISTRICT NURSING ASSOCIATION, SYDNEY.

The Committee of the District Nursing Association of Sydney have issued the Annual Report and Balance Sheet for the year ending August 31, 1916, in pamphlet form.

The work of this Association is discharged by eight nurses under the superintendence of the Sister in charge. The nurses visit the sick poor in their own homes, each undertaking a district in the city and suburbs. The total number of patients attended was 1,448, and the total number of visits paid 25,410. At the request of the Committee of the Royal Alexandra Hospital special nurses were again engaged to attend to babies suffering from gastro-enteritis. This work had proved itself of great value in the preceding year. During the year under review 177 babies were attended; of these 11 died, 23 were transferred to hospitals or clinics, 3 were removed beyond the area of activity of the nurses, and 140 were "discharged cured." The Committee advocate home nursing for these infants, but point out that something more is required than the daily visits of the nurse. It is held that a working mother is compelled to stay at home with her baby when it is ill, and that this frequently entails pressing poverty. The suggestion was made that a Baby's Help Fund should be inaugurated, and with this object in view a conference was held by representatives of the Royal Alexandra Hospital for Children, the District Nursing Association, and the Sydney Day Nursery Association. As a result of this conference the constitution was framed, and the sum of £100 was voted by the Royal Alexandra Hospital in order that the work might be begun.

In past years each nurse has been supplied with a small sum monthly to enable her to provide milk and other comforts to her patients; these moneys were obtained from a fund called The Comforts Fund. Unfortunately this fund has decreased to such an extent that it was not possible to fulfil this function without an encroachment on the general fund.

The Honorary Treasurer deplores that the income of this excellent institution has been falling off during the past twelve months. The total expenditure for the year was £1,210, while the income only amounted to £1,064. A balance was brought forward from the previous year of £586, and the sum of £300 was withdrawn from deposit. The Government subsidy amounted to £100. The contribution from the Walter and Eliza Hall Trust was £200, and that from the Hospital Saturday Fund was £80. The Branches contributed £465. While the increasing expendi-

ture, and the decreasing income are very regrettable, the Treasurer is to be congratulated that she has not incurred the Association in any liability, and that she has a substantial bank balance of £740 in hand.

Public Health.

THE HEALTH OF NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the fortnight ending November 18, 1916:

	Metropolitan	Hunter River	Rest	Total.
	Combined	Combined	of	
	District.	District.	State.	
	Cs. Dths.	Cs. Dths.	Cs. Dths.	Cs. Dths.
Enteric Fever	17	2	0	31 4
Scarlatina	130	2	9	177 3
Diphtheria	53	3	2	109 7
Cerebro - spinal				
Meningitis	5	0	0	17 3
Poliomyelitis	1	0	0	3 0
Pulmonary Tuber-				
culosis†	58	16	0	69 16
Malaria	1	0	0	1 0

†Notifiable only in the Metropolitan and Hunter River Districts, and since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

THE HEALTH OF VICTORIA.

The following notifications have been received by the Department of Public Health Victoria, during the week ending November 19, 1916:

	Metro-	Rest of	Total.
	politan.	State.	
	Cs. Dths.	Cs. Dths.	Cs. Dths.
Diphtheria	53	0	75 0
Scarlatina	17	0	24 0
Enteric Fever	0	0	3 0
Pulmonary Tuberculosis	27	7	33 15
Cerebro - spinal Menin-			
gitis	7	—	11 —
Anterior Poliomyelitis	1	—	2 —

THE HEALTH OF SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, South Australia, during the week ending November 4, 1916:

	Adelaide.	Laun-	Whole
	Cs. Dths.	ceston.	State.
	Cs. Dths.	Cases.	Cases.
Morbilli	18	0	91 0
Pertussis	3	0	57 1
Pulmonary Tuberculosis	0	1	13 5
Diphtheria	0	0	10 0
Enteric Fever	1	0	6 1
Scarlatina	0	0	4 0
Cerebro - spinal Menin-			
gitis	0	0	3 0
Puerperal Fever	1	0	1 0

THE HEALTH OF TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the week ending November 11, 1916:

Disease.	Hobart.	Laun-	Whole
	Cases.	ceston.	State.
	Cases.	Cases.	Cases.
Diphtheria	4	1	12 17
Enteric Fever	1	0	1 2
Scarlatina	2	0	2 4
Pulmonary Tuberculosis	8	0	3 11
Cerebro - spinal Menin-			
gitis	1	1	2 4

The increased economic value of tar has led G. T. Morgan and G. E. Scharff to make a number of experiments on the utilization of peat tar. Distillation of the crude tar yields neutral oils composed of highly unsaturated substances. The alkaline extraction of these oils give rise to the separation of acidic oils of high boiling point and of great germicidal power.

Abstracts from Current Medical Literature.

PATHOLOGY.

(186) *Endamoeba Buccalis*.

O. W. H. Mitchell, W. L. Culpepper, and W. D. Ayer have examined smears from the mouths of 500 children, inmates of an orphan's home and of an institution for the feeble-minded, to determine the distribution of *Endamoeba buccalis* (*Journ. Med. Research*, September, 1916). The material for the smears has been collected from the margin of the gums and between the gums and the teeth. Two smears have been taken from each child. The superficial smears have been made without cleaning the gums. The deep smears have been spread after the gums have been brushed with diluted alcohol. The smears have been fixed with methyl alcohol and stained with Giemsa's mixture diluted ten times with alkaline water. When the smears were made the condition of the gums was recorded under the headings, normal, receding and receding, spongy and bleeding. In 269 children with normal gums, the amoebae have been noted 58 times, or in 21.6%; in 98 children with receding gums, the amoebae have been found on 61 occasions or in 62.2%; and in 133 children, with receding, spongy, and bleeding gums, the protozoan has been observed 99 times, or in 74.4%. The children varied in age between 5 and 18 years. There seems to have been little difference in the findings at different ages. Although no notes have been made of the frequency with which the teeth have been cleaned, the gums have appeared more healthy and the amoebae less frequent amongst those who gave their teeth attention. Of the two hundred and eighteen children in whom the amoebae have been observed, the protozoa have been noted only in the superficial smears in sixty-three, only in the deep smears in twenty-three, and in both smears in one hundred and thirty two.

(187) Biological Differentiation of the Paratyphoid Enteritidis Group.

C. Krumwiede, J. S. Pratt and L. A. Kohn have tested the reaction of milk with or without litmus, and of litmus whey to the organisms of the paratyphoid-enteritidis group (*Journ. Med. Research*, September, 1916). The bacillus *paratyphosus A*. is said to cause no visible change in milk which retains an acid reaction to litmus. Litmus milk and litmus whey are alleged to continue acid without becoming blue in colour on inoculation with paratyphoid bacillus A. With other members of the series the media become alkaline after some days. Plain milk becomes yellowish and transparent. Twenty-two strains of *bacillus paratyphosus A*. have been studied. Among the remaining members of the group twenty strains of *B. paratyphosus B*, 5 hog cholera types, five *typhi murium* races, four varieties from guinea-pigs,

5 strains of *B. enteritidis*, 3 Danysz types and two varieties of *B. abortus equinus* have been subjected to examination. The reactions obtained have been graded. Although most types of the paratyphoid A organism produce alkali more slowly than the other members of the group, this difference is only quantitative while the intermediate degrees of reaction, both temporal and quantitative, destroy the differential value of these media. When Andrade's reagent (acid fuchsin decolorized with soda) was substituted for Kubel and Tiemann's litmus, somewhat sharper distinction was noted with most strains. The number of strains which react irregularly on this medium, show its lack of value as a qualitative method of differentiation.

(188) Arterial Obstruction in Human Nephropathy.

A. A. Ghoreyer has injected with Wood's metal the arterial tree of the kidneys in various types of nephropathy in man (*Journ. Med. Research*, September, 1916.) The kidney to be injected is perfused with dropical fluid. It is forced through the kidney cold at a pressure of 100 mm. Hg. When the perfused fluid becomes of a black colour the kidney is connected to a bottle containing molten Wood's metal and Aler's salt solution. The temperature of these substances is maintained at 85° C. The kidney is perfused for ninety seconds with hot salt solution and the glass tube of the injecting apparatus is pushed under the metal. The pressure is raised to 420 mm. Hg., and the injection continued until the flow into the kidney ceases. The kidney is placed in cold water to set the metal. The tissues are then dissolved away in several changes of alkaline lye. A series of reproductions of micro-photographs of sections of one kidney and of the arterial tree of the opposite kidney illustrate the changes observed in a slight chronic diffuse nephropathy, in a marked chronic diffuse form and in a kidney the seat of tuberculous changes. Photographs of the casts of normal kidneys are also included.

(189) Lipoma Myxomatodes.

H. E. Robertson describes a tumour removed from the right lower leg of a man aged fifty-four years (*Journ. Med. Research*, September, 1916). Its presence had been noted for fifteen months. It was situated on the external surface of the gastrocnemius and was not adherent to the skin. Sensory and motor disturbances were absent. The growth was found encapsulated at operation and was easily removed. The tumour consisted of embryonic connective tissue containing spaces varying in size and filled with more or less viscous fluid. Other portions of the growth were composed of fully differentiated fat cells. The tumour is classed as a lipoma myxomatodes. The tendency to encapsulation, the presence of adult connective tissue, the absence of mitotic figures and the slow rate of growth place these tumours close to the group of adult

or benign blastomas. Since these tumours have been known to recur, to form metastases and to undergo sarcomatous transformations a guarded prognosis should be given in these cases.

(190) Gonorrhœal Septicæmia with Endocarditis.

P. Danila has isolated the *Micrococcus gonorrhœae* from a patient with endocarditis leading to aortic insufficiency (C. R. Soc. Biol. Paris, March 3, 1916). The media employed have been peptone broth free from serum, ascitic agar and plain agar. Blood has been allowed to flow through a needle, inserted into the median vein, into the culture media. The tubes have been at once heated to the body temperature. In forty-eight hours colonies have been detected which have consisted of Gram negative diplococci. The subculture of the organisms which are present in pure culture has proved that it is the gonococcus. The knee of the patient was filled with purulent fluid, in which the gonococcus has not been found. The patient died.

(191) Fracture of Arteries.

O. Klotz (*Journ. Med. Research*, July, 1916) describes three specimens obtained from elderly individuals (60, 69 and 72 years) in whom fractures occurred in the arteries of the lower extremities, twice in the posterior tibial artery and once in the popliteal artery, just behind the knee. These arteries were the seat of calcareous changes in the medial coat. In addition to the deposition of calcareous salts, true bone had been found containing osteoblasts. In consequence, annular rings had been produced. These rings had ruptured, and a mass of organizing tissue, with fibroblasts and capillaries, closed the gap. Close to each end of the broken ring osteoid tissue was being formed. The bony spicules were surrounded by many thin capillaries, which lay in indentations of the bony structure. In one specimen the vascularized area showed much blood pigment. On the application of tests for iron, a positive result was found throughout the responsive area and in the neighbouring newly-formed bone. In none of the specimens was there any displacement of the fractured rings. The deeply-seated arteries fractured as a result of muscular action, but a history of injury was obtained in the case of fracture of the popliteal artery.

(192) Atrophy and Histogenesis of Fat.

Y. Matsuoka (*Journ. of Pathology and Bacteriology*, October, 1915) has made a study of the microscopical changes accompanying the appearance and disappearance of fat in adipose tissue. By boiling tissues to fix them he has been able to follow the replacement of fat in the cells by a serous fluid rich in proteins. He notes that atrophy occurs readily, and that, even in obese subjects, a secondary atrophy of the adipose tissue is not infrequent. He regards the venous and capillary engorgement, due to the pressure of the fat on the rich capillary network of the

adipose tissue, the consequent oedema of engorgement and the serous infiltration of the fat-cells as the chief causes of the atrophy of fat. The venous and capillary injection accounts, in his opinion, for the brown colour of the atrophied fatty tissue. In atrophy the contour of the fat-cells is distorted, owing to shrinkage, while the developing fat-cells have a smooth outline. Whenever an accumulation of fat is taking place in adipose tissue, large numbers of mast-cells make their appearance in the tissue. Nile-blue is a very suitable stain for the study of both fat-cells and mast-cells.

PÄDIATRICS.

(193) The Rôle of Fat in Infant Feeding.

Morse (*Arch. of Pediatrics*, January, 1916) states that fat in infants' food is chiefly in the form of neutral fat. The saliva has no action on it. Saponification begins in the stomach, but quickly ceases when the contents become acid, the amount of digestion of fat in the stomach being entirely unimportant. The fat is ensnared in the meshes of the casein curds, giving very little opportunity for absorption in the stomach and preventing the liberation of excessive amounts of fat at any one time in the intestines. Fat delays the emptying of the stomach. The real digestion of fat occurs in the small intestine, where it is split into fatty acids and combines with the alkaline carbonates, to form soaps, in which form it is largely, if not entirely, absorbed. In health, from 90% to 98% of the fat ingested is absorbed, whether the food is human or cow's milk. The greater part of the fat in the stools comes from the food, and, under normal conditions, 75% of this is split into fatty acids and soaps. Fatty acids irritate the intestines, and a loose acid stool can often be changed to a "soap stool" by increasing the casein in the food. The reverse can be brought about by a relative increase in the amount of carbohydrates. The absorption of fat in babies passing "soap stools" is less than when the stools are normal. The intestinal flora change with the change in reaction. Increased peristalsis, with consequent diarrhoea, results in an increased loss of fat in the stool. In the normal infant, a high fat intake does not change the mineral composition of the stools, whereas in chronic malnutrition the output of salts in the faeces is considerably raised by increasing the fat ingested. In chronic disturbances of nutrition there is a considerable diminution in fat absorption, though in some cases the percentage of absorption is higher, when larger amounts of fat (especially human) are given, than when small amounts are given. There is no reason to suppose that the normal infant cannot digest and utilize fat in reasonable amounts, but in abnormal infants this power is unquestionably diminished. The "reasonable amount" of fat in an infant's food should be put down at from 3%

to 4%, that is, the amount present in an average sample of human milk. This amount is found clinically to give the best average results. Fat is essentially a heat-producing substance with a caloric value more than double that of an equal weight of carbohydrate. Hence, if fat be diminished below a certain point, the amount of carbohydrate necessary to replace it is so great carbohydrate indigestion will be set up. The amount of fat necessary to the infant should be large enough to satisfy its caloric requirements and not enough to overtax its digestive capacity. With human milk this amount averages from 3.5% to 4%, and clinically a similar percentage with artificial feeding is found to be most satisfactory. In fact, the average normal infant can not only take this amount of fat without injury, but needs it, in order to thrive properly. Above this amount relatively few babies will thrive continuously, there being a stationary or diminished weight, with either constipation or diarrhoea. Infants that have developed a fat intolerance from over-feeding cannot take without injury the amount necessary for normal infants, and where there is an excessively acid condition of the intestinal contents, whatever the cause, the products of the decomposition of fat, which are acid, must make the condition worse and increase the symptoms.

(194) Epilepsy.

In a large number of cases the history of epilepsy begins before the individual is born, indeed, before the foundation of the organism is laid. That is to say, the disease is present in the parent or in a member of the parent's family. A family history of nervous and mental disease is of great significance. Syphilis, alcoholism and other toxic conditions in the parents probably act by attacking the vitality of the germ-plasm, and this theory is borne out by the frequent presence of the stigmata of degeneration in the individuals affected. Concerning the direct production of epilepsy by intoxications and infections, the evidence is overwhelming. Numerous cases of the disease occur in alcoholics and in cases of lead-poisoning. After the infectious diseases, epilepsy, probably due to a localized encephalitis, is not uncommon. Trauma acts by causing a localized area of scar or damaged tissue, or possibly by causing definite changes throughout the brain, which result, after a time, in generalized epilepsy. Occasionally, symptoms suggestive of derangement of the internal secretions are present; but this is not surprising, since anomalies of the glands of internal secretion are frequently found to accompany the usual physical defects of the degenerate. For treatment, Dercum (*Journ. Amer. Med. Assoc.*, July, 1916) considers that the organism, though defective and deviate, should lead as physiological a life as is compatible with its structure. To attain this, a life without physical or mental strain, close to nature, in camp or on a farm, should be adopted by the epileptic. The improvement in these

cases is largely due to the increased oxidation of toxic and waste substances and the general increase of physiological efficiency, due to the outdoor life. Again, the diet should be so modified that as little strain as possible be placed on the liver, thyroid and other defensive glands. Red meats must be taken sparingly, carbohydrates diminished, stimulants excluded. The various avenues of elimination should be kept freely open. If the diet does not counteract the existing constipation, a simple saline or laxative water should be given daily. Water should be taken freely between meals, and the daily warm bath not omitted. To control the seizures themselves chief reliance must be placed on the bromides, which are effective in much smaller dose if table salt is withheld. Thyroid extract, in small doses (gr. $\frac{1}{2}$ to $\frac{1}{4}$ t.d.s.), in certain cases is of distinct value in stimulating the internal secretions and thereby increasing oxidation and promoting metabolism generally.

(195) The Aetiology of Chorea.

From an exhaustive study of the literature, Morse and Floyd (*Amer. Journ. of Diseases of Children*, July, 1916) have discovered very little evidence in favour of a syphilitic origin for chorea and much against it. From the study of their own series of 26 cases they come to the same conclusions, as only in one did they obtain a positive and in one a doubtful Wassermann reaction. In only three was there a family history remotely suggesting syphilis. No stigmata of syphilis were present, and the percentage of positive and doubtful Wassermann reactions was not higher than the average for the hospital class. As regards the rôle of bacteria in the aetiology of chorea, there is much in favour of including chorea with acute articular rheumatism and acute endocarditis, both of which are admittedly bacterial in origin. Of the authors' cases, 81% were associated with rheumatism or endocarditis and a high percentage with diseased tonsils, carious teeth and pyorrhoea. Numerous investigators have found micro-organisms in the blood in life, but the results so far have been inconclusive. Of the authors' cases only five gave positive results on blood examination and culture, and with these too it was not possible to draw any positive conclusions, although the streptococcus found in one case was probably the cause of the endocarditis present and of the chorea too, since it caused lesions in the endocardium and joints of an experimental rabbit and lesions in the brain and meninges similar to those found in fatal cases of chorea. As regards the cerebro-spinal fluid, all the cultures were negative; but this and the absence of organisms from the blood in the majority of the cases may have been due to the fact that the cases were of a mild or only moderately severe type. In conclusion, the authors consider that syphilis plays no direct part in the aetiology of chorea, but that a micro-organism or group of micro-organisms may be the cause. The source of infection is probably in the tonsils or teeth.

Scientific Societies.

ROYAL SOCIETY OF NEW SOUTH WALES.

A meeting of the Section of Public Health and Kindred Sciences was held at the Society's House, 5 Elizabeth Street, Sydney, on November 14, 1916. Dr. H. G. Chapman occupied the chair.

Mr. J. N. Bruce delivered an address on "Humidity and Temperature of Air in Relation to Comfort and Health." He pointed out that authorities, such as Dr. Cadman, had made observations, chiefly in mines, on the temperatures measured by dry and wet bulb thermometers, the amount of clothing worn while at work, and the effect of exertion. These observations were sometimes supplemented by readings of the height of the bodily temperature. These results showed that comfortable conditions, accompanied by the absence of profuse sweating, could be ascertained more easily by reading the wet bulb thermometer than by noting the height of the dry bulb thermometer. It could be seen, however, that oppressive conditions did not run parallel to the height of the wet bulb. More uncomfortable conditions were noted on some occasions, when the dry bulb reading was low, about 77° F. and the wet bulb at 75° F. than when the dry bulb was at 105° F. and the wet bulb at 83° F. The difference between these conditions could be shown by estimating the dew-point. In the first case it was at 74° F., while in the second case it was 10 degrees lower. In selecting a standard for the regulation of the temperature of factories Haldane had proposed a wet bulb temperature of 75° F. as the maximal permitted temperature. This was quite satisfactory when the dry bulb thermometer stood over 80° F., but did not prevent oppressive conditions when the dry bulb thermometer stood between 73° F. and 80° F. The percentage of saturation of the air with humidity could not be used, as it has no fixed value, and varied with changes in the height of the dry bulb thermometer. He had recommended the adoption of a dew point between 55° F. and 65° F., as the upper and lower limits of the permitted condition for factories in New South Wales. These conditions were enforced by the Act. Mr. Bruce showed a dry and wet bulb thermometer, with lines connecting corresponding temperatures for a dew point of 65° F. He also showed a simple chart and bulb for ascertaining the dew-point from readings of the dry and wet bulb thermometer.

Dr. H. G. Chapman pointed out the wide range of the diurnal variation in persons living in Australia. The rectal temperature varied from 97° F. to 101° F. during the day. Temperatures measured in the mouth were not reliable when the evaporation was fast. He had noted that the rectal temperature had risen to 101° F. while playing tennis, but the oral temperature had fallen to 98° F. He thought that attention to the movement of the air was of importance in judging the climatic conditions. He quoted the well-known experiments of Leonard Hill in this connexion.

Dr. J. B. Cleland said that he wished also to emphasize the effect of movement of the air on the production of comfortable conditions of climate. He had observed a large range in the rectal temperature of camels when he was searching for the infective agent of "surra." In the early morning of a summer's day camels showed temperatures around 94° F., the evening temperature was 105° F. Camels with these latter temperatures had parasites allied to trypanosomes in their blood. He pointed out that persons who died from heat apoplexy during hot weather in South Australia were either at work in kitchens, or were indulging in bathing in the sea. He thought that the saturation with water of the air over the sea accounted for the frequent deaths of bathers from heat apoplexy.

Mr. A. Ollé wished to ask whether the barometer might not be of value in determining the conditions of oppressive weather. He had noted that when the barometer was low the conditions favouring profuse sweating were evident. He also directed attention to the influence of a current of air on the lowering of the wet bulb thermometer.

Mr. Bruce said that the effect of a current of air in promoting evaporation was well known. He would pay some attention to the barometer in the future.

Dr. Cecil Purser was elected Chairman of the section for 1917. Dr. Guy Griffith, Honorary Secretary, and Dr. J. B. Cleland, Dr. C. S. Willis and Mr. A. Peake members of the Recommendations Committee.

BABY CLINICS IN SYDNEY.

Some time ago the New South Wales Branch of the British Medical Association defined its policy in regard to the treatment of school children by departmental medical officers. At the same time a question was raised whether any abuse of this policy obtained in regard to the Baby Clinics. This inquiry led to a conference between the Council of the Branch and the medical members of the Baby Clinics, Prematurity and Home Nursing Board and the medical officers of the various baby clinics. The conference took place on February 8 and 18 and June 6, 1916. The following propositions were approved by those attending the conference and these propositions have been forwarded through the Under-Secretary in the Chief Secretary's Office to the Board for its consideration.

1. The conference is in accord with the "Objects of the Baby Clinic" and the "Rules for Baby Clinic Nurses," adopted by the Baby Clinic Board.
2. The baby clinics should confine their attention to infants under one year of age, seeing that the morbidity and mortality amongst infants of that age enormously exceed those of other ages; and that other organizations can be made to deal effectively with the children over one year of age. No absolutely rigid line, however, should be drawn.
3. The operations of the clinic should be confined to the cases provided for in the "Objects of the Baby Clinic," namely cases in which the cost of ordinary medical and nursing attendance cannot be met.
4. The treatment of sick infants should not be included in the objects of the clinic; inasmuch as it is dangerous to associate sick and healthy children together, and the provision existing elsewhere for treatment of sick infants is capable of being extended.
5. The main function of the baby clinic should be to get into touch with the mothers, so as to advise them as to the feeding of their infants.

6. The baby clinic nurses should be under medical supervision. Probably the best arrangement is the present one of supervision by the honorary medical officer of the clinic, provided that it is understood that the nurses would work harmoniously with medical practitioners of the district.

The documents referred to in the propositions have the following contents:—

Objects of the Baby Clinic.

1. To advise mothers in regard to unborn babies and thereafter up to the age of five years.
2. To advise pregnant women to keep in touch with the doctors and nurses up to the time of confinement.
3. To arrange, when necessary, for their admission to a women's hospital.
4. To visit the mother when the baby is born, and to impress upon her the importance of breast feeding, and advise generally.
5. To arrange, when necessary, for recently confined mothers to go with their babies for one or two weeks to the Convalescent Home, Rose Bay.
6. To instruct mothers in their homes, as well as at the clinic.
7. To arrange, when necessary, for mothers and children up to the age of five years to receive attention at the Dental Hospital.
8. To pay special attention to ophthalmia and gastro-enteritis cases, and to secure hospital treatment when necessary.
9. To instruct mothers in the preparation of infants' food.
10. To carry out treatment at the patient's home when desired by the medical attendant.

The clinics are intended only for persons unable to meet the cost of ordinary medical and nursing attendance.

Rules for the Baby Clinic Nurses.

1. Two trained nurses shall be attached to each clinic.
2. The senior nurse shall be responsible for the proper management of the clinic, and the assistant shall use the same method of treatment for the babies as those used by her senior.
3. The nurse shall be on duty from 9 a.m. to 5 p.m. from Monday to Friday, Saturday 9 a.m. to 12 noon; Sunday and holidays the clinic shall be closed.

4. One nurse shall be on duty at the clinic all day, while the other does the necessary visiting. The nurses must change duties on alternate days, and must arrange that a nurse does district nursing on Monday, Wednesday, and Friday in one week and on Tuesday, Thursday and Saturday in the following week.

5. Nurses on outdoor duty shall visit the district registrar of births daily, and obtain the names and addresses of mothers of the new-born babies to be visited.

6. Any case where a suspected bogus birth has been registered must be reported in writing by the senior nurse to the Nurse Inspector.

7. Notification-of-birth cards will be forwarded to the senior nurse daily. The cards must be kept for reference.

8. Nurses finding a case where a doctor or nurse has not notified a birth, under the "Notification of Births Act," shall inform the Nurse Inspector.

9. Cases of illness shall, when necessary, be referred to the honorary medical officer attending the clinic unless the parent of the child belongs to a lodge, in which case reference shall be made to the lodge doctor, or the case sent to a hospital, with the parents' consent.

10. A nurse finding a child suffering from an infectious disease shall carefully instruct the mother in the precautions to be taken to prevent the spread of the disease. If the child is too ill to be treated at home, or if the home arrangements are not suitable, the nurse shall arrange for its admission to a hospital with its parents' consent.

11. Any deserving case of poverty seen by a nurse shall be reported in writing by the senior nurse to the Nurse Inspector.

12. The senior nurse shall send to the Nurse Inspector on the first day of every month a report of the work done at the clinic during the preceding month. The report shall be written on the prescribed form.

13. The nurses shall keep a daily record of visits paid, cases attending the clinic, and any other matters deserving attention.

14. The senior nurse of each clinic shall notify the Nurse Inspector on Monday of any drugs, stores, stationery, etc., required.

15. All books shall be open to inspection at all times by members of the Board, and to the Nurse Inspector.

16. The senior nurse shall forward every Monday morning, to the Nurse Inspector, vouchers showing the amounts of petty cash expended during the preceding week. Accurate accounts shall be carefully kept in every clinic.

17. The senior nurse shall keep a record of the doctor's visits. If he fails to attend the Nurse Inspector shall be notified.

The medical members of the Baby Clinics, Prematurity and Home Nursing Board are Dr. W. G. Armstrong and Dr. E. Ludowici, and the medical officers of the clinics are:—

- Dr. H. G. Humphries, Newtown Clinic.
- Dr. H. E. Pridham, Woolloomooloo Clinic.
- Dr. Margaret Harper, Alexandria Clinic.
- Dr. J. Sheldon Davis, Glebe Clinic.
- Dr. R. W. Young, Mascot Clinic.
- Dr. Neville Griffiths, Balmain Clinic.
- Dr. H. F. J. Norris, North Sydney Clinic.
- Dr. C. A. Verco, St. Peters' Clinic.
- Dr. May Harris, Newcastle Clinic.
- Dr. C. C. P. Walker, Miller's Point Clinic.
- Dr. Rikard Bell, Chippendale Clinic.

Special Correspondence.

(By Our Special Correspondent.)

LONDON LETTER.

The Effect of the Control of Liquor Supplies.

It has for long been obvious to many of our sociological reformers that, if the nation could not be made completely sober by Act of Parliament, the effect of legislative restrictions on the consumption of alcohol, especially in the form of spirits, would go far towards bringing about a more satisfactory condition of affairs than has hitherto prevailed in these islands. The necessities of the war compelled the Government to deal with this question of restriction, and legislative limitations were enacted mostly in

the direction of shortening the hours during which licensed premises and clubs could supply drink. The most zealous advocate of temperance could hardly have believed that in actual practice his dreams of reform could be realized so remarkably, and almost without remonstrance, as recent statistics, issued from an official source, incontestably prove. The following weekly averages of convictions for drunkenness from January to June of 1915 and 1916 offer, in each of the towns quoted, figures of striking significance:—

	1915.	1916.
London	1,077	569
Liverpool	207	107
Manchester	80	49
Newcastle	63	37
Birmingham	37	24
Edinburgh	120	79
Glasgow	522	299

On an average, it will thus be found that, if convictions for drunkenness in the large centres of population may be taken as a measure of the sobriety of the country generally, the effect of enforced restriction has been to improve those habits of excessive indulgence which compel police interference by nearly one-half. In regard to total quantities consumed, the statistical returns show that in England and Wales the total quantity of beer charged with duty for home consumption in the first six months of this year was 10,782,533 standard barrels, a reduction of over 600,000 standard barrels as compared with the corresponding period of last year; while, as regards spirits, 11,254,933 proof gallons were cleared for home consumption in the first six months of this year, as compared with 13,258,058 gallons in the same period of last year.

Such figures justify the hope that, when we again live under normal peaceful conditions, the experience of war times will not be lost, and that Parliament will be induced to find some equitable, and not too drastic, method by which the control of liquor consumption may be a permanent feature of the economic life of the nation.

The Health of Women in Munition Factories.

Women have proved themselves unexpectedly adaptable to the new conditions of life forced upon so many of them by the exigencies of the war, and nowhere is this more strikingly demonstrated than in the munition factories throughout the country, where so many women, from all classes of the community, are now constantly employed. As far as can be ascertained, the new industrial life upon which women have entered has not, so far, been in any serious degree prejudicial to their health and well-being.

In each factory there is a woman-supervisor, who sees all the girls who apply for work, judges of their fitness, and considers their eligibility from the point of view of health and place of residence.

It has been found desirable, in some cases, to employ no women whose home is more than an hour's journey from her work. One inevitable consequence is that the district in the neighbourhood of a factory with such a restrictive rule becomes suddenly overtaxed as to housing accommodation by the influx of women who desire to fulfil the qualifying condition of proximate residence.

Three systems are in vogue, as regards time, in munition factories. One shift of 13-14 hours; two shifts of 12 hours; and three shifts of 8 hours. In each system there are suitable intervals for rest and refreshment. The women can get good meals in the canteens run in connexion with these works. For dinner the menu chalked on the blackboard comprises meat—a choice of two or three dishes—and two vegetables for eightpence; stewed fruit and custard for twopence, and tea, coffee, or milk for a penny or twopence. For tea a large cup of hot tea, together with a round of buttered toast, costs the same sum, and cakes or buns a penny. Eggs cooked in various ways are obtainable also, at a very moderate price. No time is wasted in attendance. The girls buy tickets for varying amounts at a wicket, and pass on to a counter, where they give their orders and carry their cups and plates to long deal tables.

With the co-operation of the London County Council, and other educational authorities, sixty-four centres for free training have been established in the United Kingdom. Thousands more women are wanted for the work, and the short course provided gives the inexperienced student some "machine sense" and renders her less diffident when she starts work in a factory.

Correspondence.

ANOTHER CASE OF DIABETIC CONJUNCTIVITIS.

Sir.—I was very interested in reading in the *M. J. of A.* of November 4, of Dr. Hogg's case of Diabetic Conjunctivitis. Dr. John MacMaster and I have under our care a similar case. Mr. W., suffering from general arterio-sclerosis and diabetes. He has had a most intense conjunctivitis (unilateral) with considerable lachrymation; the edge of the cornea was raised, and a few fine vessels seen in it. Otherwise the cornea was normal. The sight has been defective for years, and under atropine the dilatation of the pupil was irregular. The most striking feature was, as in Dr. Hogg's case, the complete failure of local measures—which seemed rather to aggravate than relieve the condition. He had a similar condition in the same eye some months which cleared up completely.

Yours, etc.,

November 23, 1916.

LINDSAY DEY.

"Wabun," 310 Miller Street, North Sydney.

Medical Appointments.

Dr. D. R. C. Tregonning has been appointed Acting District Medical Officer and Public Vaccinator, from the 1st of November, 1916, for Northam, Western Australia, during the absence of Dr. Rockett on sick leave.

Dr. John Walker has been appointed Acting Medical Officer to the Kalgoorlie Road Board, during Dr. J. G. MacMillan's absence on military duties.

Drs. D. Murdoch and J. H. S. Finiss have been appointed Officers of Health in the Shire of Romsey, Victoria, to act at Romsey and Lancefield respectively.

Mr. James E. Murphy has been appointed Analyst for Talbot Shire, Victoria.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xix.

Normanton District Hospital; Medical Officer.
Children's Hospital, Perth; Resident Medical Officer.
Mareeba District Hospital, Medical Superintendent.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.

VICTORIA.
(Hon. Sec., Medi-
cal Society Hall,
East Melbourne.)

**SOUTH AUS-
TRALIA.**
(Hon. Sec., 3
North Terrace,
Adelaide.)

APPOINTMENTS.

Brunswick Medical Institute.
Bendigo Medical Institute.
Prahran United F.S. Dispensary.
Australian Prudential Association Pro-
prietary, Limited.
National Provident Association.
Life Insurance Company of Australia,
Limited.
Mutual National Provident Club.

The F.S. Medical Assoc. Incorp.
Adelaide.

APPOINTMENTS.

QUEENSLAND.

(Hon. Sec., B.M.A.
Building, Ade-
laide Street, Bris-
bane.)

Brisbane United F.S. Institute.

WESTERN AU- STRALIA.

(Hon. Sec., 230
St. George's Ter-
race, Perth.)

Swan District Medical Officer.

All Contract Practice Appointments in
Western Australia.

NEW SOUTH WALES.

(Hon. Sec., 30-34
Elizabeth
Street,
Sydney.)

Department of Public Instruction—Ap-
pointments as Salaried Medical
Officers, with duties which include
the treatment of school children.

Australian Natives' Association.

Balmain United F.S. Dispensary.

Canterbury United F.S. Dispensary.

Leichhardt and Petersham Dispensary.
M.U. Oddfellows Med. Inst., Elizabeth
Street, Sydney.

Marrickville United F.S. Dispensary.

N.S.W. Ambulance Association and
Transport Brigade.

North Sydney United F.S.

People's Prudential Benefit Society.

Phoenix Mutual Provident Society.

F.S. Lodges at Casino.

F.S. Lodges at Lithgow.

F.S. Lodges at Orange.

F.S. Lodges at Parramatta, Penrith,
Auburn, and Lidcombe.

Newcastle Collieries — Killingworth,
Seaham Nos. 1 and 2, West Wall-
send.

NEW ZEALAND: WELLINGTON DIVISION.

(Hon. Sec., Wel-
lington.)

F.S. Lodges, Wellington, N.Z.

Diary for the Month.

- Nov. 28.—N.S.W. Branch, B.M.A., Medical Politics Committee—Organization and Science Committee.
Nov. 29.—Vic. Branch, B.M.A., Council.
Nov. 30.—S. Aust. Branch, B.M.A., Branch.
Dec. 5.—N.S.W. Branch, B.M.A., Ethics Committee.
Dec. 6.—Vic. Branch, B.M.A., Annual Meeting.
Dec. 8.—Q. Branch, B.M.A., Annual Meeting.
Dec. 1.—Q. Branch, B.M.A., Annual Meeting.
Dec. 12.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Dec. 12.—Tas. Branch, B.M.A., Council and Branch.
Dec. 13.—South Sydney Med. Assoc. (N.S.W.).
Dec. 14.—Vic. Branch, B.M.A., Council.
Dec. 15.—N.S.W. Branch, B.M.A., Branch (Ordinary).
Dec. 15.—Eastern Suburbs Med. Assoc. (N.S.W.).
Dec. 19.—N.S.W. Branch, B.M.A., Medical Politics Com-
mittee.
Dec. 21.—City Med. Assoc. (N.S.W.).
Dec. 22.—Q. Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.